### Lesson Objectives

- Identify, describe, draw, and classify triangles as equilateral, isosceles, or scalene.
- Identify, describe, draw, and classify triangles as right, acute, obtuse, and equiangular.
- Use physical models and paper to determine the sum of the measures of interior angles of triangles.
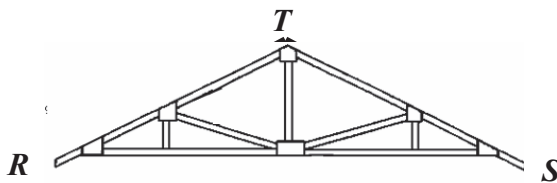
Subtopic 1   Defining Triangles

Triangle

- _____ plane figure

- Three line segments (sides) joining three _____ points (vertices)

1 The dorsal fin of a sandbar shark is roughly triangular. For the triangle shown, name the sides, vertices, and angles. Write one name for the triangle.
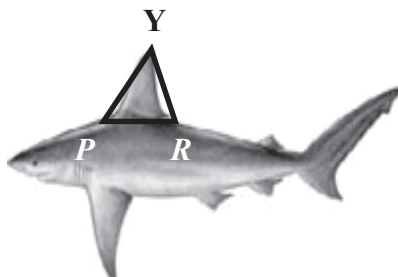
2 The frame of a roof truss is in the shape of a triangle. Name the triangle's sides, vertices, and angles. Give one name for the triangle.

Subtopic 2   **Classifying Triangles**

An acute triangle must have _____ acute angles.

A right triangle has one _____ angle.

An _____ triangle has one obtuse angle.

An _____ triangle has three congruent sides.

An isosceles triangle has at least _____ congruent sides.

A _____ triangle has three non-congruent sides.

Classify the triangle by its sides and by its angles.

5 Sketch an example of each figure.

Obtuse isosceles triangle   Right scalene triangle   Acute scalene triangle

Subtopic 3   **Triangle Sum Property**

Triangle Sum Property

The sum of the measures of the three _____ angles of any triangle is _____.

In $\triangle ABC$, _____ = 180°.

An equiangular triangle has three _____ angles, each measuring _____.

If a triangle is equiangular, it is also _____.

6 A school is building a triangular garden. One interior angle measures 58°. Another measures 82°. What is the measure of the third interior angle?

7 The gangway, or exit ramp, from a spaceship forms a 68° angle with the side of the ship. What angle does the gangway form with the ground?
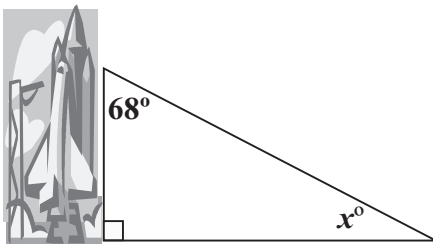
8 Do these sets of angles form triangles? If so, are they acute, right, or obtuse?

30°, 60°, 90°   100°, 20°, 40°   45°, 55°, 80°